

RUIKE GU

ruikgu@nyu.edu ■ [linkedin.com/in/ruikgu](https://www.linkedin.com/in/ruikgu)

EDUCATION

NEW YORK UNIVERSITY

New York, NY

The Courant Institute of Mathematical Sciences

Expected Dec 2021

M.S. in Mathematics in Finance

- **Coursework:** risk-neutral pricing, Black-Scholes, mean-variance optimization, PCA, SVD, volatility trading, Brownian motion, Itô integral, Fama-French, delta-hedging, volatility models

SUN YAT-SEN UNIVERSITY

Guangzhou, China

B.S. in Mathematics & Minor in Finance, GPA: 3.8/4.0

Sept 2016 - June 2020

- **Coursework:** classical linear regression, numerical analysis, data structures & algorithms, ODEs, CAPM, multivariate calculus, Monte Carlo simulation
- **Honors:** University Scholarship for Outstanding Students (top 5% of students for 2 years)
Second Prize for Chinese Mathematics Competitions

EXPERIENCE

YIPIN ASSET MANAGEMENT Co.

Shanghai, China

Quantitative Research Intern

Dec 2020 - Present

- Converted future reports to txt format and performed data cleaning and preprocessing
- Used regular expression and keyword dictionaries to extract basic information and opinion
- Leveraged hierarchical clustering to analyze the covariance of fundamental data

BOSERA ASSET MANAGEMENT Co.

Shenzhen, China

Investment Management Intern

July 2019 - Aug 2019

- Implemented multi-factor model to extract factor exposure and interpreted the regression result; leveraged style analysis to measure style drift
- Analyzed and backtested portfolio construction techniques (risk parity strategy); achieved an annualized return of 12%, max drawdown of 50% and Sharpe ratio of 0.6 in back test
- Implemented mean-variance optimization on portfolios; refined the optimization with Ledoit-Wolf covariance shrinkage estimator and incorporating asset performance through Black-Litterman model

PROJECTS

NEW YORK UNIVERSITY

New York, NY

Sigmoid-based functional volatility model

- Proposed a new static parameterization of the implied volatility surface which is constructed by using polynomials of sigmoid functions combined with some other terms
- An arbitrage-free calibration algorithm is considered that constructs the implied volatility surface as a grid in the strike-expiration space and guarantees a lack of arbitrage at every node of this grid

Computing in Finance

- **PCA analysis:** Conducted PCA analysis on weekly returns of US treasuries by extracting, cleaning and transforming historical data and fitted a Nelson-Siegel curve to yield curves in Python
- **K-Means Clustering:** Implemented Lloyd's K-Means algorithm to perform multidimensional data point clustering based on Euclidean distance with united tests in Java
- **Order Book:** Leveraged multiple data structures to design order book and exchange mechanisms with functions to sweep, rest and cancel limit orders in Java

COMPUTATIONAL SKILLS/OTHER

Programming Languages: Java, Python, MATLAB, R

Languages: Mandarin (native), English (proficient)